

Applicant : Lars U. Borg
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Filed : December 6, 2001
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Attorney's Docket No.: 07844-475001 / P439

REMARKS

Claims 1-32 were pending as of the action mailed on July 15, 2005.

Claims 1, 4, 5, 14, 17, 20, 21, and 30 are amended. Claims 6, 9, 15-16, 22, 25, and 31-32 are cancelled. No new matter has been added.

Reexamination and reconsideration of the action are requested in light of the foregoing amendments and the following remarks.

Section 102

Claims 1-2, 4-6, 8, 10-18, 20-22, 24, and 26-27 were rejected as allegedly anticipated by U.S. Patent Application No. 6,373,580 ("Walker").

Claims 6, 16, 22, and 32. The examiner rejected claims 6, 16, 22, and 32, stating that:

Walker teaches all the limitations of claims 4, 14, 20, and 30 respectively. Walker further discloses the method, wherein the termination condition is that a cell coordinate value of zero has been reached (Walker ranks the fractional component of the input point from largest to smallest. The fractional portion determines the cell coordinate value. If the smallest value ends up being 0.0 implying that one of the input component is located on a grid point then this component will be the last calculation in the interpolation and thus terminating the calculation as shown in the example in column 4, lines 20-39 wherein the $dy=0.0$ is the last term to be calculated.).

Claims 4 and 14 have been amended to incorporate the substance of the limitations of claims 6 and 16, respectively. Claim 6 had recited that "the termination condition is that a cell coordinate value of zero has been reached." A termination condition is a condition that causes termination. In the cited passage of Walker, the last value happens to have been zero. This, however, is not a termination condition; that is, it is not why the calculation process terminated. Walker processes all input dimensions regardless of coordinate value and without any early termination, which Walker explicitly states at column 4, lines 5-7.

Claim 6 has been cancelled and claim 4 has been amended to recite this feature, reciting that the method includes "determining whether a cell coordinate value of zero has been reached and establishing that an early termination condition has been reached when a cell coordinate value of zero has been reached." This feature is not taught by Walker.

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Claim 16 has also been cancelled and a corresponding amendment has been made to claim 14.

The applicant respectfully submits that amended claims 4 and 14, the corresponding *Beauregard* claims 20 and 30, and their respective dependent claims are allowable.

Section 103

Claims 9 and 25 were rejected as allegedly unpatentable over by U.S. Patent No. 6,373,580 ("Walker") in view of U.S. Patent No. 5,678,033 ("Moledina et al.").

Claims 9 and 25. The examiner rejected claims 9 and 25, stating that:

Claims 9 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6373580 to Walker in view of U.S. Patent No. 5678033 to Moledina et al.

Regarding claims 9 and 25, Walker teaches all the limitations of claims 1 and 17 respectively. However Walker does not disclose the method of claim 1, further comprising:

processing, simultaneously, all source color coordinates that are associated with the input color and that have identical values by interpolating a contribution to the destination color coordinates associated with the output color.

Moledina et al disclose processing, simultaneously, all source color coordinates that are associated with the input color and that have identical values by interpolating a contribution to the destination color coordinates associated with the output color (column 5, lines 60-67; column 6, lines 1-13).

Walker and Moledina are combinable because they are in the similar problem area of color interpolation.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the simultaneous processing of Moledina et al with the system of Walker to implement simultaneous processing of color interpolation.

The applicant respectfully disagrees.

As an initial matter, the references are not combinable. Walker is directed to techniques, that perform interpolation calculations in a serial way, that is, in a way that can be implemented in a conventional computer. Moledina, on the other hand, to the extent it is relevant to the

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present application, is directed to pipelined interpolation units. This is clearly described in the following passage, which is the only reference in the Molina specification to simultaneous processing:

An additional advantage provided by the present invention is the fact that input data may be "pipelined" in the multi-stage interpolation unit. When color values are interpolated, each component of the color value is separately processed. For example, if the destination color space is CMYK, each of the cyan, magenta, yellow and black components of the input data points are separately processed, typically in sequence. In the processor of the present invention, after a data value corresponding to a first component of a pixel is processed in the X-dimension by IU array 40 to generate output values 33, 35, 37, and 39, the IU array 40 may immediately be loaded with input data for a second component of the pixel. Hence, immediately following generation of X-dimensional output values 33, 35, 37, and 39, for one component input data corresponding to the next component can be processed in the IU array 40 for X-dimensional interpolation at the same time that the data for the first component is undergoing Y-dimensional interpolation in the second stage 42. At the next step, the image data for three component values of a pixel can be simultaneously interpolated at the same time for the three dimensions, respectively. [Col. 5 line 59 to col. 6 line 13 (emphasis added)]

Claims 1 and 17 have been amended to recite the feature to which claims 9 and 25, now cancelled, had been directed. These claims as amended now recite that adjacent source color coordinates that have identical values are detected when they occur in the processing order and that when this occurs, a single interpolation calculation is performed for all the detected adjacent source color coordinates to calculate a single contribution to the calculated output color. Even in Moledina, multiple interpolation calculations occur, though they may occur simultaneously because they are carried out in distinct processors. This feature is described in the applicant's specification on page 12, lines 18-27.

Conclusion

For the foregoing reasons, the applicant submits that all pending claims are in condition for allowance.

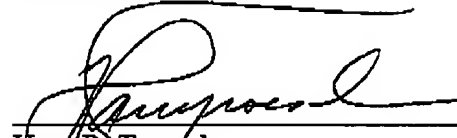
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Respectfully submitted,

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